APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/532,510	03/21/2000	Brian Joseph	ALA-106	6796

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EXAMINER
LE, UYEN T

ART UNIT	PAPER NUMBER
2171	18

DATE MAILED: 04/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

	Application No.	Applicant(s)
Office Action Summary	09/532,510	JOSEPH, BRIAN
	Examiner	Art Unit
	Uyen T Le	2171

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _04 February 2003_ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1,3,4,6-12,14-16 and 18-20_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1,3,4,6-12,14-16 and 18-20_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4)☒ Interview Summary (PTO-413) Paper No(s). _9_ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: .

DETAILED ACTION

Response to Amendment

1.   Applicant canceled claim 5, therefore, the rejection to claim 5 under 35 U.S.C. 112, second paragraph is withdrawn.

2.   Claims 1, 3, 4, 6-12, 14-16, 18-20 are now in this application.

3.   Applicant arguments regarding the amended claims have been fully considered but they are moot in view of the new grounds of rejection presented in this Office Action. Regarding applicant's argument that it would be necessary to make modifications not taught in the prior art to combine the references in the manner suggested by the examiner, since it is well known in the art as shown by Weigand to use partial addresses to reduce the address space and processing time (see the abstract, column 2, lines 43-54, column 4, lines 61- column 5, line), it would have been obvious to one of ordinary skill in the art to use the partial address as taught by Weigand while implementing the system of Dent in order to save space and processing time. The prior art does not have to teach how to make modifications to incorporate the teaching of one reference into another reference. One of ordinary skill in the art supposedly knows something about the art apart from what is explicitly shown in the references and knows how to use the principles taught by the references in combination to get the desired results.

Claim Objections

4.   Claim 3 is objected to because of an inadvertent error introduced by the

amendment: line 2 "that" should be — the —. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

5.   Claims 1, 3, 4, 6-11, 16, 18-20 are rejected under 35 U.S.C. 112, second

paragraph, as being indefinite for failing to particularly point out and distinctly claim the

subject matter which applicant regards as the invention because:

- claim 1, line 11 "the selected data value" lacks antecedent basis

- claim 16, last line "the selected input" lacks antecedent basis.

The art rejection of claims 1, 3, 4, 6-11, 16, 18-20 is applied as best understood

in light of the rejection under 35 U.S.C. 112, second paragraph discussed above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 1, 3, 4, 6-12, 14-16, 18-20 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Dent et al (US 5,187,675) provided by the applicant, in view of

Weigand et al (US 5,285,185) of record.

Regarding claim 1, Dent discloses a system for locating a specific value (see the abstract, Figures 1-4). Note the plurality of decision units grouped in successive computation stages 1-3 in Figure 1. The claimed N data values merely read on input V0 through V7 shown in Figure 1. Since the system consists of stages of comparators, clearly the input data value has to be of a predetermined width. Also note that the claimed "W bit wide" has no effect on the claimed system. Dent clearly shows that each decision unit which reads on each element 11 through 13 of Dent receives a pair of input values. Each input has to have a data value and an address for the system to locate and compare. Although Dent does not explicitly show that the input value also contains a partial address, it is well known in the art as shown by Weigand to use partial addresses to reduce the address space and processing time (see the abstract, column 2, lines 43-54, column 4, lines 61- column 5, line). Therefore, it would have been obvious to one of ordinary skill in the art to use the partial address as taught by Weigand while implementing the system of Dent in order to save space and processing time. The claimed binary operator merely generates a binary decision representative of a local address. Note that claims are entitled to their broadest reasonable interpretation consistent with the specification. Therefore, the claimed "binary decision representative of a local address" merely reads on the decision of the comparator in Dent selecting one input from the pair of inputs. Claim 1 does not require the binary decision to actually represent the local address of the selected input value. The claimed multiplexer coupled to the binary operator is met by the plurality of comparators at each stage in the system of Dent. Note that the comparators in the system of Dent accomplish the same tasks

claimed by applicant in (i) and (ii) although applicant uses different technical terms. The claimed element (iii) has to be present for the system of Dent to at least temporarily store the results of the computation at each stage during the computation process. The claimed "each decision unit generates a value...contains the specific value" at the last paragraph is met when Dent shows that stage 3 contains Vmax.

Regarding claim 3, although Dent shows that the system selects the maximum value of the pair of data values, it would have been obvious to one of ordinary skill in the art to modify the system to select the minimum value in order to suit users' needs.

Regarding claim 4, Dent shows that the binary operator selects the maximum value of the pair of data values contained in the pair of input values since the output of stage 3 is Vmax (see Figure 1).

Regarding claims 6, 7, although Dent and Weigand do not specifically show which bits represent the partial address, since users' systems have different configuration, it would have been obvious to one of ordinary skill in the art to include the claimed features depending on users' system configuration.

Regarding claims 8, 9, Dent discloses that the number of computation stages K is related to the size N by the formula $K = \log_2 N$ and the number of decision units at a computation stage i is equal to $N/2^i$ wherein $1 < = I < = K$ when Dent shows that each comparator at each stage takes 2 inputs and produces one output as shown in Figure 1.

Regarding claims 10, 11, although Dent and Weigand do not specifically show the order of the address bits and the specific value bits, since users' systems have

different configuration , it would have been obvious to one of ordinary skill in the art to include the claimed features depending on users' system configuration.

Regarding claim 12, Dent discloses an apparatus for obtaining information on a specific value within a pair of inputs (see Figure 1). The claimed binary operator and multiplexer are met by the comparators shown in Figure 1. Note that the comparators in the system of Dent accomplish the same tasks claimed by applicant in (a) and (b) although applicant uses different technical terms. The claimed element (c) has to be present for the system of Dent to at least temporarily store the results of the computation at each stage during the computation process. The input data values are clearly compared and the output is clearly representative of a local address of the specific value since each value has to be locally stored before comparison can be performed. Although Dent does not explicitly show that the input value also contains a partial address, it is well known in the art as shown by Weigand to use partial addresses to reduce the address space and processing time (see the abstract, column 2, lines 43-54, column 4, lines 61- column 5, line). Therefore, it would have been obvious to one of ordinary skill in the art to use the partial address as taught by Weigand while implementing the apparatus of Dent in order to save space and processing time.

Regarding claim 14, although Dent does not explicitly show that the binary operator is a minimum operator, it would have been obvious to one of ordinary skill in the art to modify the comparators 11, 12, 13 so that the binary is a minimum operator in order to accommodate user's requirements.

Regarding claim 15, Dent discloses that the binary operator is a maximum operator when Dent shows comparators 11, 12, 13 outputting Vmax.

Regarding claim 16, note that the claimed W bits of data value do not seem to play any role in applicant's method. Dent discloses a method of determining an address for a result of a binary operation when Dent shows that the output of the final stage is Vmax (see the abstract, Figure 1). Although Dent does not specifically show that each input value includes a partial address, it is well known in the art as shown by Weigand to use partial addresses to reduce the address space and processing time (see the abstract, column 2, lines 43-54, column 4, lines 61- column 5, line). Therefore, it would have been obvious to one of ordinary skill in the art to use the partial address as taught by Weigand while implementing the apparatus of Dent in order to save space and processing time. Also note that the comparators in the system of Dent accomplish the same tasks claimed by applicant in (a) and (b) although applicant uses different technical terms. Furthermore, claim 16 does not require the binary decision to actually represent the data value and the partial address of the selected input value. The claimed step (c) has to be present for the method of Dent to perform the computations since all inputs have to be stored at least temporarily for a computerized method to perform.

Regarding claim 18, clearly the computation stage 3 of Dent contains the value of the result of the binary operation and its address within the array of values.

Regarding claim 19, although Dent does not specifically show a minimum finding operation, since the method is using comparators, it would have been obvious to one of

ordinary skill in the art to modify the comparators to find the minimum value depending on user's needs.

Regarding claim 20, Dent discloses that the binary operation is a maximum finding operation when Dent shows that the result is Vmax.

Conclusion

7.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Uyen T Le whose telephone number is 703-305-4134. The examiner can normally be reached on M-F 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 703-308-1436. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Uyen Le
April 21, 2003